1/2 020 UNCLASSIFIED PROCESSING DATE--020CT70

TITLE--COMMISSURE ON TWO DISTRICT DATA FOR 8 YEARS -U-

AUTHOR--KALUGIN, A.S.

K

COUNTRY OF INFO--USSR

SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 2, PP 9-12

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PERITONEUM, SURGERY, HYDROCORTISONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1523 STEP NO--UR/0477/70/000/002/0009/0012

CIRC ACCESSION NO--AP0106279

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0106279

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASING ON THE CLINICAL DATA STUDIES OF 1074 PATIENTS WITH COMMISSURE, THE AUTHOR CAME TO THE CONCLUSION DEGREES THAT THE ORIGINAL CAUSE OF THE DISEASE IN 90.8PERCENT WERE OPERATIONS PERFORMED ON THE PERITONEAL CAVITY URGANS, THE OTHER CAUSES CONSISTED 9.2PERCENT. THE PHYSIOTHERAPEUTIC TREATMENT WAS EFFICIENT AT EARLY STAGES OF MORBIDITY WITH COMMISSURE IN THE PERIVISCERAL FORM. WHAT CONCERNS THE SURGICAL METHODS OF TREATMENT THE MOST EFFECTIVE TURNED TO BE: VISCEROLYSIS WITH IRRIGATION OF THE DESERIZED SURFACES BY NOVOCAINUM, HYDROCORTISONUM, LYDASA WITH OXYGEN INSUFFLATION, ARTIFICIAL PERITONISATION BY THE CONSERVED HETEROGENOUS PERITONAEUM AND SEGMENTO MESENTERIC INTESTINOPLICATION IN THE AUTHOR'S MODIFICATION.

UNCLASSIFIED

USSR

UDC 613.644:016.6

GUZEYEV, O. Ye., KALUGIN, G. P., and RYBALKO, N. S., All Union Scientific Research Institute of Scientific Instrument Building

"Complete Laboratories for the Study of Vibration and Noise"

Moscow, Gigiyena i Sanitariya, No 4, 1970, pp 100-101

Abstract: The authors designed three types of laboratories capable of (i) measuring noise and vibration in industrial and public buildings, stores, restaurants, and schools, and (ii) checking on the accuracy of apparatus used for this purpose by minicipal and rayon sanitary epidemiological stations. The first and most fully equipped, Vibroshum I, is intended for Moscow, Leningrad, and republic sanitary epidemiological stations; the smaller Vibroshum II and Vibroshum III are intended for kray, oblast, and large-city, and for rayon and small-city sanitary epidemiolcgical stations, respectively. The instruments and equipment are listed for the different types of laboratories. The modular structure of the laboratories makes it possible for an organization to acquire only those units that it needs, and to replace or add to them whenever desired.

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USSR

UDC 539.61:620.17:546.26

VOLKOV, G. M., BARABANOV, V. N., DERGUNOV, N. N., ZAKHAROVA, Ye. N., and KALIGIN, V. I., Moscow

"The Effect of the Structure of Graphite on Its Strength"

Kiev, Problemy Prochnosti, No 12, Dec 72, pp 65-67

Abstract: The mechanical strength of artificial graphites depends not only on the dispersed structure of the material, but also on its crystalline and supermolecular structure, which is the secondary structure developed as a result of different arrangement of crystallites. The effect of artificial defects of supermolecular structure on mechanical strength of pyrographite and its bonding strength is discussed by reference to diagrams and photomicrographs of its polished surface. The effect of precipitation strengthening of carbonic material as a result of decreased concentration effect of supermolecular structural defects was used for the development of a new class of carbon materials, the carbonic Pyroceram. The characteristics of the USB-15 Pyroceram are presented. Five illustrations, eight bibliographic references.

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USSR UDC: 533.6.011.8

ZUYEV, N.D., KALUGIN, V.M. and PROCHUKHAYEV, M.V.

"Investigation of Rarefied Gas Flow Around Flat Plate With Sharp Leading Edge"

Novosibirsk, Sb. Eksperim. Issled. i Vopr. Modelir. Techeniy Razrezhennogo Gaza (Symposium on Experimental Investigation and Modeling Problems of Rarefied Gas Flow), 1971, pp 3-9 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B267 by V.S. Galkin)

Translation: Results of investigation on the effect of the temperature factor $T_w \approx 0.11 \div 1$ on the flow field parameters around a flat model at $M_\infty \approx 4, 5$ and 8, designed for $R_{e_\infty} \approx 40$ and 400 respectively at 1 cm in a vacuum wind tunnel, are presented. The model is a flat plate with a sharp leading edge (thickness $\delta \approx 0.05$ cm, $\delta/\lambda_\infty < 0.25$, λ -length), the half-opening angle of the wedge at the leading edge $\varphi \approx 10^\circ$, liquid nitrogen circulating through internal channels maintains a temperature of $T_w \approx 78^\circ$K at the basic part of the surface, $T_w \approx 140^\circ$K near the leading edge. Measurements were made by means of total pressure probes, free-molecule thermoprobe made of 10 micromm diameter wire and by the glow discharge method (see Kalugin, V.M., 1/2

USSR

ZUYEV, N. D., et al., Sb. Eksperim. Issled. i Vopr. Modelir Techeniy Razrezhennogo Gaza, 1971, pp 3-9

Zh. Prikl. Mekh. i Tekhn. Fiz (Journal of Applied Mechanics and Technical Physics), 1969, No 2, pp 106-109, Referativnyy Zhurnal-Mekhanika, 1969, Abs. No 11B 383).

Data on the shape and thickness of the compression jump and profiles of temperature, density and pressure are presented. Reduction of $\bar{T}_w$ from 1 to 0.11 results in appreciable reduction of shock layer thickness. The use of similarity parameter proposed by Probstin

$$M_\infty \left(\bar{T}_w^{1/2} C_\infty / R_\infty \right)^{1/2}$$

where C_∞ is the Chapman-Rubezin constant, makes it possible to correlate the effects of M_∞ and $\bar{T}_w$ on the shape of the compression jump. With $\bar{T}_w = 1$ at the surface of the model a strong temperature jump is observed. There is a considerable transversal pressure gradient in the nonviscous layer. 8 references.

2/2

Metrology, Mapping, Surveying, Graphics

USSR UDC 533.6

VOLCHKOV, V. V. and KALUGIN, V. M. (Moscow)

"Measurement of the Speed of Rarefied Gas Streams on the Basis of the Carrying Away of an Ion Tracer Formed by an Electron Beam"

Moscow, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 1, 1973, pp 88-94

Abstract: Consideration is given to the physical aspects of the formation of an ion tracer in a low-density gas stream, and results of experimental research are presented on the application of a method for measurement of the speed both within the flow core, and in nonisentropic regions of flow. An investigation is made of the features of a method of speed measurement with the use of a known base of two double probes, for recording the time of transit by the tracer. Comparison of the measurement results with data obtained by means of the imposition of full pressure shows that measurement of the speed by the indicated method can be conducted not only within the core of a supersonic stream, but, under certain conditions, also in nonisentropic regions of flow. 6 figures. 6 references.

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USSR

UDC 669.71.017:539.43.01

STEPNOV, M. N., MIKLYAYEV, P. G., KOPNOV, V. I., KALUGINA, A. A., and FOMIN, K. N.

"The Effect of Structural Microinhomogeneity on the Fatigue Resistance of the D1 Alloy"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 42-49, resume

Translation: A method is suggested for the quantitative rating of the microstructure of aluminum alloys by the inhomogeneity of the microplastic deformation. The relation between the inhomogeneity factor of microplastic deformation and the fatigue resistance of rods and stampings of the D1 alloy is demonstrated. Seven figures, one table, four bibliographic reference.

1/1

USSR

KALUGINA, G. N., MATSNEVA, N. M., IBRAGIMOVA, F. I., NOSKOVA, V. A., ARONOVA, Ye.R. and YEVSTIGNEYEVA, O. F. Uzbek Scientific Research Institute of Hematology and Blood Transfusion

"The Effect of Certain Solutions of Synthetic Polymers on Formed Elements in Preserved Blood"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 6, 1970, pp 36-38

Abstract: The suitability of three synthetic polymers -- polyvinyl alcohol, carboxymethyl cellulose, and polyvinyl pyrrolidone -- for the preservation of donor blood was investigated. The results indicate that these substances prolong the life span and maintain a perfect physiological state of erythrocytes for up to 40-45 days, of leukocytes up to 20-25 days, and of thrombocytes up to 5-7 days. These synthetic colloids also speed up the sedimentation rate of blood and thus make it possible to separate formed elements from plasma without undue trauma.

1/1

UDC: 621.382.001.5

USSR

KALUGINA, L. I., YUKHTANOV, Ye. D., KIREYEV, P. S.

"On the Capacitance-Voltage Characteristics of PN Junctions in Cadmium Telluride"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2623-2625

Abstract: The authors study the capacitance-voltage characteristics of PN junctions in cadmium telluride of P-type conductivity with a resistivity of 10^6-10^8 $\Omega \cdot cm$. It was found that the capacitance falls sharply with an increase in reverse bias from 0 to 10 V. However, there is very little change in capacitance with a further increase in voltage. It was found that capacitance is inversely proportional to the cube root of the voltage in the 1-10 V range. The weak change in capacitance with bias voltage in excess of 10 V is attributed to impact ionization of deep acceptor levels.

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UDC 619+576.8.094.29

USSR

SYUSYUKINA, M. S., SYUSYUKIN, A. A., SERGEYEV, V. A., and KALUGINA, T. Ye., All Union Scientific Research Institute of Foot-and-Mouth Disease

"Culturing Foot-and-Mouth Disease Virus in VNK-21 Kidney Cells of Immune Animals"

Moscow, Sel'skokhozyaystvennaya Biologiya, Vol 6, No 1, 1971, pp 136-138

Abstract: The possibility of culturing foot-and-mouth disease virus in monolayer cultures and in suspensions of kidney cells of immune cattle was studied. For this purpose cows which had recovered from the disease, vaccinated cows, and control cows were used as donors of cells on which laboratory strains of A_{22} and C viruses were cultured. Viruses grew equally well on kidney cell layers and on cell suspensions regardless of whether the donor was or was not immune to foot-and-mouth disease. The final concentration of viruses in the media was approximately the same, and their immunogenic properties were practically identical.

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PREPARATION AND THERMAL DECOMPOSITION OF STRONTIUM TETRAHYDROORTHOTELLURATE -U-

AUTHOR-(02)-KNYAZEVA, R.N., KALUGINA, Z.I.

K

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 155-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, TELLURIUM COMPOUND, STRONTIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0844 STEP NO--UR/0153/70/013/002/0155/0157

CIRC ACCESSION NO--AT0132934

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132934

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SRH SUB4 TEO SUB6 WAS PREPD. BY CALCINING A TRITURATED MIXT. OF 5 G TE AND 31 G SR(NO SUB3) SUB2 FOR 1 HR AT 700DEGREES, GRINDING AND AGAIN HEATING 1 HR AT 700DEGREES, AND TREATING THE FUSED MASS WITH 1 L. 5PERCENT NH SUB4 CL FOR 5-6 HR. THE INSOL. RESIDUE IS FILTERED, WASHED, AND DRIED TO YIELD SRH SUB4 TEO SUB6. UPON HEATING SRH SUB4 TEO SUB6, 1.5 MOLES H SUB2 O ARE LOST IN THE RANGE 220-440DEGREES BY AN ENDOTHERMAL EFFECT WHICH IS ASSUMED TO PRODUCE EITHER 2SRTEO SUB4 .H SUB2 O OR SR(OH) SUB2 .5RTE SUB2 O SUB7 (PROBABLY THE LATTER), AND ADDNL. H SUB2 O IS LOST AS HEATING IS CONTINUED TO 750DEGREES TO YIELD SRTEO SUB4. WITH FURTHER HEATING TO 900DEGREES, O IS EVOLVED ENDOTHERMALLY TO YIELD SRTEO SUB3.

FACILITY: URAL. GOS. UNIV. IM. GOR'KOGO, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 577.15

KALUNYANTS, K. A., Candidate of Technical Sciences

"Microbiological Synthesis of Enzymes and Their Isolation and Purification"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 545-548

Abstract: The USSR enzyme industry is failing to meet the demands of the national economy either in output volume or in the number of types of preparations being turned out. The ninth and tenth five-year plans must be a period for intensive development of the USSR enzyme industry. Bacteria and molds are the microorganisms most often used abroad as enzyme producers. Until recently the USSR produced enzyme preparations by the cultivation of molds, but enzyme enterprises began to use bacteria in 1970, and bacteria will assume a dominating position in the future. Aerobic microorganisms are used in the Soviet Union and abroad, but there are promising prospects for the use of anaerobic microorganisms. VNIIsintezbelok /All-Union Scientific Research Institute of Protein Synthesis/ recently devised a technique for the production of macerating enzymes by cultivating anaerobic microorganisms, and the first test batch of these preparations was produced in 1971. There are plans to expand the output of enzyme preparations by this method. The enzyme industry in the USSR and

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USSR

KALUNYANTS, K. A., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 545-548

abroad now uses two methods for cultivating the enzyme-producing microorganisms -- the surface and the submerged method. The submerged method is used most often abroad. In the USSR specific conditions have arisen which have forced scientific research institute workers to revise their views about the advantages of the submerged method. About 50 percent of the economy's enzyme requirements is accounted for by enzyme preparations designed for the ensiling of leguminous plants which are difficult to ensile. Such preparations can be obtained only by the surface cultivation of molds. The enzyme needs of agriculture can be met only by building large enzyme enterprises equipped with high-output mechanized growing devices. VNIIsintezbelok and IrkutskNIIkhimmash /Irkutsk Scientific Research and Design Institute of Chemical Machine-Building/ have now developed a design for a growing device, an experimental model of which will be made and tested in 1972. The device consists of a cylindrical vertical reactor divided vertically into six sections.

Commercial enzyme preparations in the form of syrups are obtained by the extraction of enzymes from cultures of microorganisms and the subsequent concentration of the extracts. Purified enzyme preparations are obtained by removing insoluble and other inert substances and foreign microflora from the

USSR

KALUNYANTS, K. A., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 17, No 5, 1972, pp 545-548

extracts or filtrates of culture liquids and subsequently isolating the enzymes with neutral salts, organic solvents or by sorption on various surface-active agents. Enzymes can be precipitated out from their aqueous solutions by various organic solvents (ethyl and isopropyl alcohols, acetone) or by the method of salt precipitation. Enzyme solutions and concentrates of enzyme solutions are dehydrated on spray driers. Enzyme precipitates are dried on freeze driers. Ultrafiltration, filtration through activated charcoal, Sephadexes and ion-exchange resins have recently begun to be used on an industrial scale for the concentration of enzyme solutions and their purification. Ultrafiltration is now the most modern and economical method for the production of enzyme preparations for industry and agriculture, and the Soviet enzyme industry will master this process in the very near future.

3/3

AA0039840 K Kalunyants, K.A. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

237081 APPARATUS FOR CULTIVATING MICROORGANISMS such as fungi, comprises a rotating drum 1 provided with a charging hatch 2, and two hollow pivots 3, through which tubes 4 and 5 are passed. Steam, sterile water, air and vaccination preparations are consecutively fed through tube 4 Tube 5 serves as an outlet for steam, and culture suspension. The end of tube 5 is branched, and one of the branches is provided with pins 6. The drum is equipped with blades 7 fixed to springs, which improves the mixing and aeration of the medium. The charging hatch 2 is provided with a filter made, e.g. of Petryanov's fabric. The medium is

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AA0039840

charged through hatch 2, and then sterilised with steam at 2-3 atm. gauge for 60-70 mins. The medium is allowed to cool, then sterile water and the vaccination preparation are introduced through tube 4. When the drum rotates, the blades 7 strike pins 6, and vibrate, thus agitating the medium and the air

in the drum. A considerable intensification of the cultivation process is achieved. 16.10.67. as 1190489/28-13. S P.KOLOSKOV et alia. All-Union Institute of Alcohol and Liqueur Industry. (20.6.69.) Bul.8/12.2.69. Class 6a. Int.Cl. C12k.

AUTHORS: Koloskov, S. P.; Yarovenko, V. L.; Kalunyants, K. A.; Makeyeva, A. N. and Golger, L. I.

Vsesoyuznyy Nauchno - Issledovatel'skiy Institut Spirtovoy i Likero - Vodochnoy Promyshlennosti

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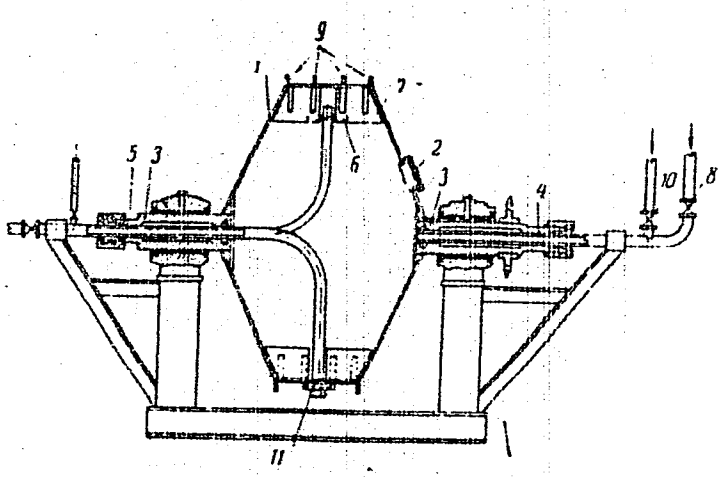

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USSR UDC 621.762.2

ANTIPIN, L. N., DROZDENKO, V. A., KOYGUSHSKIY, N. N., OLESOV, YU. G., USTINOV, V. S., ZAPADNYA, V. I., VOLYNSKIY, V. V., and KALUSHSKAYA, E. L.

"Technology of Production of Powders by Electrolysis of Melts With Soluble Anode"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected Works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 85-89, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G456 by the authors).

Translation: A technological plan is developed for the production of Ti and titanium alloy powders by electrolysis with a soluble anode. The optimal technological mode is selected for electrolytic powder production. The plan has been accepted for use. The Ti powders produced are equal in impurity content to the best types of Ti sponge. The influence of electrolyte temperature on properties of the Ti produced and on content of Cl is studied. The Ti produced has passed consumers' tests. 2 figures; 2 tables.

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USSR

UDC 632.95

BLIZNYUK, N. K., KALITSKIY, L. A., ZHEMCHUZHIN, S. G.

"Procedure for Obtaining O-Chloralkyl Amidothiolphosphates"

USSR Author's Certificate No 296773, filed 28 Nov 69, published 15 Jun 71 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 6N610)

Translation: Substances with the general formula $ClROP(SR^1)(O)NR^2R^3$ having high fungicidal activity (I; R = alkylene; R^1 = alkyl, aryl, aralkyl; R^2 and R^3 = H, alkyl or R^2R^3N = a ring radical) are obtained by the reaction of cyclic alkyleneglysol chlorophosphites with sulfenamides with heating of an equimolar mixture of reagents to 60-100°. A solution of 0.025 moles of ethyleneglycol-chlorophosphite in 10 ml of C_6H_6 is added to a solution of 0.025 moles of phenylsulphenmorpholite in 5 ml of C_6H_6 (reaction temperature of the mass $\leq$60°), it is mixed ~ 1 hour at 50-60°, evaporated and I is obtained ($R = CH_2CH_2$, R^1 = Ph, NR^2R^3 = morpholino) with a yield of 96.3%, a boiling point of 144-5/0.02, d_4^{20} 1.3331, $n^{20}D$1.5655. The I was obtained analogously (R^1, NR^2R^3, the yield in percentages, d_4^{20}, $n^{20}D$ are presented) R = CH_2CH_2, Ph, NHBu, 100, 1.2560, 1.5690; Ph, piperidino, 97.5, 1.2789, 1.5645; Ph, morpholino, 77.6, 1.2982, 1.5630; Ph, ethylenimino, 93, 1.3549, 1.5720, R = $(CH_2)_3$: Ph, morpholino, 91.7, 1.3057, 1.5612;

USSR

BLIZNYUK, N. K., et al, USSR Author's Certificate No 296772, filed 28 Nov 69, published 15 Jun 71

Ph, piperidino, 86.6, 1.2520, 1.5598; Ph, NHBu, 91.6, 1.2569, 1.5672; Ph, ethylenimino, 93.1, 1.3283, 1.5710; R = CH (Me) CH (Me): Bu, NEt_2, 77.1, 1.0975, 1.4821.

USSR

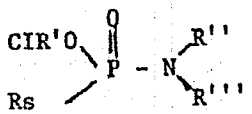
UDC 547.298.1'26.118.07

BLIZNYUK, N. K., KALUTSKIY, L. A., and ZHEMCHUZHIN, S. G., All-Union Scientific Research Institute of Phytopathology

"A Method of Making O-Chloroalkyl-amidothiolphosphates"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 9, Mar 71, Author's Certificate No 296773, Division C, filed 28 Nov 69, published 2 Mar 71, pp 82-83

Translation: This Author's Certificate introduces a method of making O-chloroalkyl-amidothiolphosphates of the general formula



where R is an alkyl, aryl or aralkyl, R' is an alkylene, R'' and R''' are hydrogen, an alkyl, or form together with a nitrogen atom a cyclic system based on phosphorus acid chlorides. As a distinguishing feature of the patent, the process is simplified by interacting cyclic alkylene glycol

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USSR

BLIZNYUK, N. K., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 9, Mar 71, Author's Certificate No 296773, Division C, ffiled 28 Nov 69, published 2 Mar 71, pp 82-83

chlorophosphites with sulfenamides with subsequent isolation of the goal product by conventional methods. 2. A modification of this method distinguished by the fact that the process is carried out with heating of an equimolar mixture of the reagents to 60-100°C.

USSR

UDC 547.569.1

KHOKHLOV, P. S., KALUTSKIY, L. A., NAZAROV, T. A., MOCHALKIN, A. I., and BLIZNYUK, N. K., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Anomalous Reaction of Arylthioethanols With Phosphorus Trichloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 795-797

Abstract: The reaction of arylthioethanols with phosphorus trichloride in the presence of hydrogen chloride acceptors gives bis(arylthio)ethanes instead of the expected phosphorous acid esters. The same products are formed in the interaction of arylthioethanols with benzyldichlorophosphine, hexaethyl triamidophosphite and phosphorous acid. The structure of the resultant bis(arylthio)ethanes is confirmed by PMR spectra and counter synthesis.

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1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ANOMALOUS REACTION OF ARYLTHIOETHANOLS WITH PHORPHORUS TRICHLORIDE -U-

AUTHOR-(05)-KHOKHLOV, P.S., KALUTSKIY, L.A., NAZAROV, T.A., MOCHALKIN, A.I., BLIZNYUK, N.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 795-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHANOL, PHOSPHORUS CHLORIDE, ORGANIC SULFUR COMPOUND, ARYL RADICAL, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1502 STEP NO--UR/0079/70/040/004/0795/0797

CIRC ACCESSION NO--AP0135163

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 0.01 MOLE PCL SUB3 TO 0.03 MOLE PHSCH SUB2 CH SUB2 OH AND 0.05 MOLE ETHYLENE OXIDE IN MEPH AT 0-5DEGREES, HOLDING AT 10-15DEGREES UNTIL REACTIVE CL HAD BEEN CONSUMED, AND EVACUATING THE MIXT. SEVERAL HR AT 100DEGREES GAVE AFTER ADDN. OF 0.01 MOLE H SUB2 O AND HEATING TO 100DEGREES, A LITTLE PHSCH SUB2 CH SUB2 OH, B SUB2 110-17DEGREES, AND 80.9PERCENT (PHSCH SUB2) SUB2, M. 61-2DEGREES. SIMILARLY WERE PREPD. THE ANALOGS WITH ARYL GROUPS SHOWN: P-MEOC SUB6 H SUB4 (I) M. 102-3DEGREES; O,CLC SUB6 H SUB4, M. 75-6DEGREES; AND P,CLC SUB6 H SUB4, M. 87-8DEGREES. IF PCL SUB3 IS REPLACED BY PHCH SUB2 PCL SUB2 THE 1ST REACTIONGAVE THE SAME PRODUCT BUT IN 61PERCENT YIELD; REPLACING ETHYLENE OXIDE BY ET SUB3 N GAVE A 68PERCENT YIELD OF THE SAME PRODUCT; IF HCL ACCEPTOR IS OMITTED, THE REACTION WITH PCL SUB3 GIVES MAINLY CLCH SUB2 CH SUB2 SPH. HEATING 3 MOLES PHSCH SUB2 CH SUB2 OH WITH 1 MOLE (ET SUB2 N) SUB3 P AT 120-30DEGREES WITH DISTN. OF ET SUB2 NH GAVE AFTER FINIAL TREATMENT WITH 1 MOLE H SUB2 O AT 90-100DEGREES 2 HR, 77PERCENT (PHSCH SUB2) SUB2. HEATING 0.06 MOLE PHSCH SUB2 CH SUB2 OH WITH 0.03 MOLE H SUB3 PO SUB3 AND A TRACE H SUB2 SO SUB4 IN XYLENE 3 HR WITH SEPN. OF H SUB2 O GAVE 68PERCENT (PHSCH SUB2) SUB2. REACTION OF P,MEOC SUB6 H SUB4 SK WITH (BRCH SUB2) SUB2 IN ETOH GAVE 83PERCENT I; ANALOGS WERE PREPD. SIMILARLY FOR STRUCTURE PROFF. FACILITY: VSES. NAUCH.-ISSLED. INST. FITOPATOL., USSR.

UNCLASSIFIED

USSR

UDC 612.017

SHURYGIN, D. Ya., Professor, Col Med Serv. NIKOLAYEVSKIY, V. V., Candidate of Medical Sciences, Lt Col Med Serv, DYGIN, V. P., Doctor of Medical Sciences, Lt Col Med Serv, and KALUZHENKO, R. K., Candidate of Medical Sciences, Lt Col Med Serv

"On the Immunological Reactivity of Military Servicemen"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 2, 1973, pp 61-65

Abstract: Military servicemen were subjected to immunological tests to determine effects of various aspects of service on immunological makeup. Environmental aspects were studied in the first stage: While servicemen in the south of Western Siberia were immunologically normal, those in the north manifested reduced immunological reactivity. Allergic reactions are pronounced in isolated collectives. Low lysozyme, complement, and reactivity were characteristic of individuals in their first 2 months of service. Lysozyme and antibody titers were lowest in April-May. The second stage involved types of combat activity, physical training, and vaccinations: While group antigen and lysozyme titers were higher in daytime than at night during routine duty, the pattern reversed itself during 24-hour duty. Lysozyme decreased and auto-antibodies appeared more frequently after combat exercises. Physical training increased reactivity.

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USSR

SHURYGIN, D. Ya., et al., Voyenno-Meditsinskiy Zhurnal, No 2, 1973, pp 61-65

Autosensitization arose in the 10th-45th days after preventive immunization. The third stage involved harmful environmental factors: While very long electromagnetic waves were not found to cause problems, ultrahigh-frequency fields caused some complement reduction and occasional appearance of antibodies, particularly after long exposure. Immunological reactions in the presence of internal brain injuries and burns were analyzed in the fourth stage: Acute brain injury caused quite pronounced spontaneous blast transformation of lymphocytes and made them cytopathic against homologous fibroblasts for months and years. The same problems arose with burns. Auto-allergic processes played a major role in burn cases. Disease-associated changes were studied in the final stage. Rheumatism caused formation of tissue auto-antibodies to degrees depending on the disease form. Liver auto-antibodies were detected with Botkin's disease in quantities directly correlated with phase and severity of illness. They also appeared with chronic hepatitis and cirrhosis of the liver. Acute and chronic diffuse glomerulonephritis caused production of kidney auto-antibodies. Acute and chronic pneumonia caused pronounced auto-allergies with production of various auto-antibodies, and general reduction of immunological reactivity. Dermatosis disrupted lymphocyte and neutrophil function, as did chronic tonsilitis. Among these diseases, changes in reactivity are probably

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USSR

SHURYGIN, D. Ya., et al., Voyenno-Meditsinskiy Zhurnal, No 2, 1973, pp 61-65

pathogenic only with rheumatism, nephritis, and hepatitis. This information would be helpful in the diagnosis, prevention, and treatment of immunopathy involved with military service.

3/3

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--TEMPERATURE DEPENDENCE OF A THERMOGALVANIC CURRENT -U-

AUTHOR-(03)-BELCHINSKAYA, L.I., KALUZHINA, S.A., SHATALOV, A.YA.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2), 228-30

DATE PUBLISHED--------70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), CHEMISTRY

TOPIC TAGS--TEMPERATURE DEPENDENCE, ELECTROLYTIC CELL, ELECTRIC CURRENT, BATTERY ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1759 STEP NO--UR/0364/70/006/002/0228/0230

CIRC ACCESSION NO--AP0109720

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0109720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CURRENT (I) OF GALVANIC CELLS OF VERY DIFFERENT TYPE, AT UNCHANGED NATURE OF METAL AND ELECTROLYTE COMPN., DEPENDS ONLY ON THE TEMP. DIFFERENCE BETWEEN THE HOT AND COLD ELECTRODES, I.E.: I EQUALS CONST. TIMES DELTA T. THIS RELATION WAS CONFIRMED BY EXPTL. DATA REGARDING SOME THERMOGALVANIC COUPLES WITH THE FOLLOWING ELECTRODES: CU, OR CO OR FE, IN 0.1 N H SUB2 SO SUB4 PLUS 0.9 N NA SUB2 SO SUB4; CU IN 0.1 N H SUB2 SO SUB4 PLUS 0.9 N CUSO SUB4; PT IN 0.01 N K SUB3 FE(CN) SUB6 PLUS 0.09 N K SUB4 FE(CN) SUB6.

FACILITY: VORONEZH. GOS. UNIV., VORONEZH, USSR.

UNCLASSIFIED

USSR UDC 621.318.435.3

KALUZHNIKOV, N. A., OVSYANNIKOV, G. D.

"Reversing High-Speed Magnetic Amplifier"

USSR Author's Certificate No 296222, Filed 29/12/69, Published 8/04/71, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A129 P).

Translation: The authors suggest a reversing high-speed MA [magnetic amplifier] with dc load, controlled by an alternating current signal, containing two cores with control and operating windings and connected in series with diodes, a multiple-winding power supply transformer, and ballast resistors. In order to simplify the MA, the working windings are connected in series to the secondary windings of the power supply transformer, and condensors are connected between the load and ballast resistors.

1/1

4

USSR

UDC 669.295.054.79

ANTIPIN, L. N., DROZDENKO, V. A., KOYGUSHSKIY, N. N., OLESOV, Yu. G., USTINOV, V. S., ZAPADNYA, V. I., VOLYNSKIY, V. V., and KALUZHSKAYA, E. L.

"The Technology for Obtaining Powders by the Electrolysis Method for Liquid Metals With a Soluble Anode"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 85-89

Translation: A technological chart for producing powders of titanium and its alloys by the electrolysis method with a soluble anode is worked out. Opitmal technological conditions for obtaining powders by electrolysis are selected. The chart has been adopted for introduction. The titanium powders obtained do not differ, in impurity content, from the best grades of titanium sponge. The effect of electrolyte temperature on the qualities of the metal obtained and the chlorine content in it are studied. The metal obtained is undergoing testing by users. Two illustrations, two tables, and two bibliographic entries.

1/1

USSR UDC 669.71.472

KOMERS, YE. G., KALUZHSKIY, N. A.

"Selecting the Optimal Geometric Parameters of Electrolyzers with Preroasted Anodes"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 85-93 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G164)

Translation: In order to select the optimal width of the area occupied by the anodes for a powerful electrolyzer with roasted anodes, the effect of varying the given parameter on the cost of aluminum electrolysis was investigated. The technical-economic indexes of five versions of the electrolysis series made up of electrolyzers with an anode width of 225, 250, 275, 300, and 325 cm but with an identical total base area of the anode (19,500 cm^2) corresponding to a current strength of ~150 kiloamps were calculated for this purpose. The electrode spacing, the current efficiency, and the distance from A to the walls of the shaft were assumed identical, and the current strength was calculated from the thermal balance equation taking into account the heat losses and heating voltage. Comparison of cost and reduced expenditures of

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USSR

KOMERS, YE. G.,KALUZHSKIY, N. A., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 71, pp 85-93

these versions demonstrated that the effect of the anode width on the efficiency of the electrolyzer is less than was assumed earlier and that the optimal anode width depends significantly on the cost of electric power. In the case of more expensive electric power, preference must be given to the electrolyzer with large anode width. However, in the price range for electric power delivered to the aluminum plants probably a significant increase in efficiency of powerful electrolyzers with roasted anodes cannot be expected on increasing the anode width above 275 cm unless a noticeable increase in current efficiency takes place on widening the anode. There are 3 tables.

2/2

Miscellaneous

USSR

UDC 669.71.472

DERKACH, A. S., KALUZHSKIY, N. A., KULAKOV, A. I., SHTERN, V. I.

"Calculating an Aluminum Electrolyzer on a Digital Computer by the Energy Balance Method"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 45-62 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G163)

Translation: Results and the procedure of computer calculation of an electrolyzer with side current lead-in are discussed. D, the energy yield, and a number of other parameters are calculated as functions of the selected current strength, anode width, and spacing between the ends of the pins in the anode. The effect of possible errors with errors in assigning the pole spacing, the electrochemical component of the voltage drop, the specific electrical conductivity of the electrolyzer, the magnitude of the current efficiency, and the heat losses of the electrolyzer on the final calculation result was analyzed. The procedure for calculating the electrolyzer can be used in design developments when selecting the optimal design of the electrolyzer. The directions in which it is necessary to continue work to refine the

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USSR

DERKACH, A. S., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 71, pp 45-62

mathematical model of the electrolyzer and the calculation procedure are indicated. There are 8 illustrations and 1 table.

USSR

UDC 621.316.722.1(088.8)

KAL'VA, V.S.

"Pulse Voltage Regulator"

USSR Author's Certificate No 262994, filed 16 Nov 67, published 2 June 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B549P)

Translation: The circuit is patented of a regulator with pulse control in which two transistors of a different type of conductivity are used, while the base of a type p-n-p power transistor is connected with the collector of a type n-p-n low-power transistor, the base of which is connected across a resistor with the potential terminal of the reference voltage, and across a capacitor -- with the input of the output RC-filter. The collector and emitter of the power transistor are respectively connected with the input of the filter and the potential terminal of the input voltage; the emitter of the low-powered transistor is connected with the potential terminal of the output voltage. Conditions of positive feedback are assured in the circuit, which, because of the presence of reactive elements, assures conditions for the formation of stable relaxation auto-oscillations, the frequency and on-off time of which are determined by the magnitude of the input voltage and the load current. 1 ill.

1/1

USSR

UDC 541.135.4

FILIPPOVICH, B. S., KAL'VARSKIYA, T. M., State Institute of Applied Chemistry, Leningrad

"Mechanism of Removal of the Reaction Water in a Fuel Element with a Quasi-solid Electrolyte and Waterproofed Electrodes"

Moscow, Elektrokhimiya, Vol VII, No 10, pp 1505-1508

Abstract: Water transfer in a waterproof electrode includes passage of the liquid phase and diffusion of vapor through the threshold space not filled with liquid. A study was made of the relative contribution of the different mechanisms of water transfer to the total flow which is essential to the description of the structure of the electrode insuring stationary conditions for any current strength. The following mechanisms are discussed: 1) evaporation under the effect of the temperature gradient, molecular diffusion connected with convexity of the meniscus at the interface between the waterproof electrode and the electrolyte; 3) the mechanism of forcing the liquid phase through the electrode. Only the transfer phenomena determined by the properties of the electrode itself were investigated. Graphs are presented

USSR

FILIPPOVICH, B. S., et al, Elektrokhimiya, Vol VII, No 10, pp 1505-1508

showing the distribution of thermal evaporation to the total water flow as a function of the current density at various temperatures.

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USSR

UDC 612.06:612.015.348+543.257

KALVELIS, A. D., and ZARINYA, L. A., Riga Medical Institute

"The Effect of Some Strong Irritants and Biologically Active Substances on the Level of Serum SH-Groups and the Polarographic Filtration Test"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR No 5(274), 1970, pp 65-68

Abstract: A study was made of the effect of some strong irritants on the polarographic filtration test and the level of serum SH-groups in 99 white rats. During aseptic inflammation, septicemia, and after introduction of ACTH, a decrease in the content of SH-groups in blood serum and an increase in both polarographic waves were observed. During asphyxia, hypothermia and after the introduction of prednisolone, the first polarographic wave increased, and the level of serum SH-groups decreased. Burn shock and the introduction of adrenalin lowered only the content of serum Sh-groups. During aseptic inflammation, a lowering of albumin and gamma-globulin content was observed, as well as an increase in alpha$_2$-globulins and the optical density of sialic acids in blood serum. After the introduction of prednisolone the alpha$_2$-globulin content in blood serum increased, and the gamma-globulin content decreased. It may be assumed that the underlying reason for the displacement in the polarographic filtration test and level of serum Sh-groups is the modified serum protein and mucoprotein composition. There are nonspecific differences in the mechanism of changes occurring in both tests.

1/2 039 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CURRENT INSTABILITY OF N GERMANIUM WITH A NICKEL IMPURITY IN STRONG ELECTRIC FIELDS -U-

AUTHOR-(03)-KLIMKA, L., KALVENAS, S., POZHELA, YU.K.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 407-9

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SEMICONDUCTOR IMPURITY, NICKEL, ANTIMONY, GERMANIUM SEMICONDUCTOR, VOLT AMPERE CHARACTERISTIC, CARRIER DENSITY, PHOTOCONDUCTIVITY, ELECTRIC FIELD, RECOMBINATION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0076 STEP NO--UR/0449/70/040/002/0407/0409

CIRC ACCESSION NO--AP0105167

UNCLASSIFIED

2/2 039 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRYSTALS OF N TYPE GE DOPED WITH NI TO A CONCN. OF (1-2) TIMES 10 PRIME15-CM PRIME3 EXHIBIT SUBLINEAR CURRENT-VOLTAGE CHARACTERISTICS AT 77PERCENT, BEGINNING AT FIELDS OF SIMILAR TO 20 V-CM, USING SB AS THE COMPENSATING IMPURITY. THE RATIO OF THE CONCN. OF NI TO SB ATOMS IS SUCH THAT 2N SUBNI IS GREATER THAN N SUBSB IS GREATER THAN N SUBNI, SO THAT THE SPECIMENS EXHIBIT INCOMPLETE COMPENSATION OF THE UPPER NI LEVEL, E SUBC-E SUB2 EQUALS 0.3 EV, AND ON REDUCING THE TEMP., THE CONCN. OF EQUIL. CARRIERS FALLS EXPONENTIALLY. AT 77DEGREES, MONOPOLAR ELECTRONIC PHOTOCOND. IS OBSD., AND IN THIS CASE THE RELAXATION TIME FOR NONEQUIL. PHOTOCOND. IS DETED. BY THE LIFETIME OF THE ELECTRONS RECOMBINING AT THE SINGLY CHARGED NEG. NI IONS, WHICH ARE PRESENT IN MUCH HIGHER CONCN. THAN THE ELECTRONS IN THE BAND ARISING FROM IRRADN. IN THE REGION OF CHARACTERISTIC EQUIL. LIGHT ABSORPTION. THE COEFF. OF RECOMBINATION IN A FIELD OF 100 V-CM INCREASES ON THE AV. BY A FACTOR OF 2 COMPARED WITH OTHER DEEP RECOMBINATION CENTERS, FOR EXAMPLE THE SINGLY CHARED AU CENTER IN GE. THE DIFFERENTIAL COND. CAN BE WRITTEN IN THE FORM SIGMA SUBD EQUALS EN MU (L PLUS (D LN N MU-D LN E)), WHERE MU IS THE CARRIER MOBILITY. IF THE CARRIER CONCN. DECREASES SUFFICIENTLY RAPIDLY ON INCREASING THE FIELD INTENSITY, THE RIGHT HAND SIDE OF THE ABOVE EQUATION BECOMES NEG. BEGINNING AT FIELDS OF SIMILAR TO 10 V-CM, CURRENT OSCILLATIONS IN THE EXTERNAL CIRCUIT RESULTING FROM THE MOTION OF DOMAINS ARE OBSD., WHILE THE MAX. CURRENT CORRESPONDS TO THE MOMENT OF DISAPPEARANCE OF THE MOVING DOMAIN AT THE CONTACT.

FACILITY: INST. FIZ. POLURPV., VILNIUS, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CURRENT INSTABILITY OF N TYPE GERMANIUM CONTAINING NICKEL IMPURITY IN STRONG ELECTRIC FIELDS -U-

AUTHOR-(03)-KLIMKA, L.S., KALVENAS, S.P., POZHELA, YU.K.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHN. POPUPROV., FEB. 1970, 4 (2), 407-409

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM SEMICONDUCTOR, ELECTRIC FIELD, CURRENT STABILIZATION, VOLT AMPERE CHARACTERISTIC, TEMPERATURE DEPENDENCE, ELECTRON MOBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1285 STEP NO--UR/0449/70/004/002/0407/0409

CIRC ACCESSION NO--AP0124936

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124936

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MECHANISM RESPONSIBLE FOR THE DEVELOPMENT OF CURRENT INSTABILITIES IN N TYPE GE CONTG. TRACES OF NI IN STRONG ELECTRIC FIELDS (E.G., 100 V-CM) IS DISCUSSED IN THE LIGHT OF EXISTING DATA AND NEW EXPERIMENTAL INVESTIGATIONS. THE ELECTRIC FIELD HEATS THE CARRIERS (THIS IS SHOWN BY THE FACT THAT THE MOBILITY AND LIFE TIME OF THE LATTER VARY WITH APPLIED FIELD) AND MAY LEAD TO THE DEVELOPMENT OF NEGATIVE DIFFERENTIAL CONDUCTIVITY. THUS THE V-A CHARACTERISTIC BECOMES NONLINEAR AT FIELDS OF 20 V-CM AND OVER AT 770EGREESK. 11 REF.

UNCLASSIFIED

USSR

UDC 547.584+547.314+547.78

OSHKAYA, V. P., and KALVINSH, I. Ya., Latvian State University imeni P. Stuchka

"Condensation of Dicarboxylic Acid Anhydrides With Compounds Containing Active Methylene Groups. XII. Condensation of Phthalic Anhydride With 2-Thiothiazolidone-4 and Thiazolidene-2,4-dione"

Riga, Izvestiya Akademii Nauk Latviiski SSR, Seriya Khimicheskaya, No 4, 1970, pp 475-478

Abstract: Condensation of phthalic anhydride with 2-thiono-thiazolidone-4 and with 3-phenyl-2-thiono-thiazalididone-4 yields 5-phthalylidene-2-thiono--thiazolidonone-4. These compounds are formed also in acetic anhydride in the presence of sodium acetate. Work up of 5-phtalylidene-2-thionothiazolidonone-4 with concentrated sulfuric acid yields 5-phthalylidene-thiazolidene-2,4-dione which could be obtained also from the condensation of phthalic anhydride with thiazolidene-2,4-dione. The structure of the compounds was confirmed by infrared and ultraviolet spectral analysis.

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USSR

KUKHARCHUK, L. P., and KAL'VISH, T. K., Biological Institute, Academy of Sciences USSR, Siberian Branch, Novosibirsk

"Blood-Sucking Mosquitoes (Diptera, Culicinae) in the Northern and Central Altai"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10, 1972, pp 97-101

Abstract: The mosquito fauna of the Northern Altai appears to be largely the same as that of the Central Altai. Of the 28 species indigenous to these mountains, 27 are found in the former and 25 in the latter. Besides the common species, Aedes galloisi, Culex modestus, and C. territans occur in the Northern Altai and Aedes beklemishevi in the Central Altai. In the course of field trips in 1968 and 1969, Culex pipiens, Anopheles maculipennis, Aedes vaxans, and A. cinereus were observed most frequently in the Northern Altai and Aedes diantaeus, A. intrudens, and A. punctor in the Central Altai. The areas investigated have a promounced continental climate, with wide ranges of daily and annual temperatures and a comparatively small amount of precipitation (270 to 460 mm).

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USSR

UDC: 577.4

KALYADIN, N. I.

"On the Problem of Modifying the Formulaic Description of Boolean Functions"

V sb. Primeneniye vychisl. tekhn. v mashinostr. (Use of Computer Technology in Machine Building--collection of works), Izhevsk, 1971, pp 49-51 (from RZh-Kibernetika, No 8, Aug 71, Abstract No 8V424)

[No abstract]

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USSR

UDC: 577.4

IPATOVA, E. N., KALYADIN, N. I., TIKHONOV, G. A.

"On the Problem of Constructing Filters in Calculating Boolean Functions"

V sb. Primeneniye vychisl. tekhn. v mashinostr. (Use of Computer Technology in Machine Building--collection of works), Izhevsk, 1971, pp 52-57 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V423)

[No abstract]

1/1

USSR UDC 51.621.391

KALYADIN, N. I., TIKHONOV, G. A.

"The Relationship of Lattice and Boolean Functions"

Avtomat. Ustroystva Ucheta i Kontrolya [Automatic Accounting and Testing Devices -- Collection of Works], No. 6, Izhevsk, 1970, pp 55-58 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V486).

No Abstract.

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AA0039845

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,-

3/70

237722 BIOCHEMICAL TESTING OF WASTE WATER is more reliable and more accurate. Vessel 1 is connected to the compensating bottles 2 and 3 through an electrolyser 4 and a pressure regulator 5. The regulator is connected with a level indicator 6, an amplifier 7, a relay 8 and a recorder 9. 1 litre of waste water (sample) with active sludge is placed in the vessel. A container 10 with 30% solution of KOH is placed to absorb carbon dioxide. Oxidising of organic matters accompanies the demand for diluted oxygen and subsequent diffusion of it from gas 11 to a liquid. The pressure of gas increases due to the fact that

AUTHORS: Arendt, G. A.; Veprintsev, V. I.; Kalyagin, A. M.; Krikun, V. Ya.; Livshits, L. S.; Marchenko, I. A.; Morgulis, L. A. and Sokolov, G. I.

19741229

AA0039845

electrolyser 4 produces oxygen by the electrolysis of an anode A. When it is equal to the pressure in the bottles 2 and 3, the electrolyser is automatically cut-off. The current to the electrolyser is regulated by a resistance R and the duration of the cycle is controlled by a timer 12. Hydrogen from cathode R is absorbed in 13. Mixing of sample is done magnetically 14 and the complete assembly is submerged in a thermostatically controlled water bath 15. 17.4.67. as 1149716/23-26. A.A KUZMIN et alia Water Supply Canalisation Hydrotechnical Plate and Hydrogeological Eng. Res. Inst. (7.7 69.) Bul.8/12.2.69. Class 85b. Int.Cl. C02b.

Spetsial'noye Konstruktorskoye Byuro "Gaztroymashina"

19741230

USSR UDC 546.185

KOLODYAZHYY, O. I., KALYAGIN, G. A., and GOLOLOBOV, Yu. G., Institute of Organic Chemistry, Acad. Sc. Ukrainian SSR

"Reaction of Chlorophosphates With Metallic Derivatives of Malonic Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 8, Aug 73, pp 1859-1860

Abstract: Diethyl chlorophosphate reacts with sodium, potassium, or lithium derivatives malonic ester via O-phosphorylation, yielding diethyl (carboethoxypropenyl) phosphate, b.p. 120-122°/0.05 mm, n_D^{20} 1.4472, d_4^{20} 1.1650.

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USSR

UDC: 678.5.06:539.38.001

KALYAGIN, M. F. and VOLKOV, S. D., Ural Polytechnic Institute imeni S. M. Kirov, Sverdlovsk

"Theory on the Distribution of Elastic Deformations in Two-Component Composites"

Riga, Mekhanika Polimerov, No 4, Jul-Aug 73, pp 616-622

Abstract: The authors propose a new method for calculating the rule associated with the distribution of random elastic deformation in composites with isotropic components. This method is based on the analogy of known methods which are used in studying the limit theorems in the theory of probability and on the use of a known solution to a nonlinear boundary value problem in the theory of elasticity of heterogeneous media in operator form. The validity of this solution and of the corresponding system of limitations has been verified by many researchers. It is shown that random deformations are distributed according to a binomial rule which is close to that for the sum of two normal distribution rules.

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USSR

UDC 621.039.532.21

VIGRIL'YEV, Yu. S., and KALYAGINA, I. P.

"On Mechanisms of Radiation Modification of Graphite"

Moscow, Atomnaya Energiya, Vol 31, No 5, Nov 71, pp 497-503

Abstract: The effect of dimensional changes in graphite as a result of exposure to neutron radiation is a complicated function of the accumulated dose, irradiation temperature, and also the structural and physical properties.

This paper deals with methods of quantitative determination of the dimensional variations of graphite by means of mechanisms which treat the material as a single-component crystalline substance: elastic deformation of graphite subcrystals, relaxation of internal stresses localized in the subcrystals, and the formation of accumulation of vacancy porosity occurring at doses of $(2-3)\cdot 10^{22}$ neutrons per sq. cm. Theoretical and experimental data show satisfactory agreement. Seven figures, one table, bibliography of eleven titles. Author's abstract.

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USSR UDC 616.993.162-022.39:599.32(575.4)

KALYAKIN, V. N., Toxoplasmosis Laboratory, Department of Natural Focus Diseases, Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR

"Habitat Differences in the Spread of Cutaneous Leishmaniasis Among Gerbils in the Vicinity of Tash-Kepri (Turkmen SSR)"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 5, 1971, pp 561-566

Abstract: In the course of a 1963 field trip around the settlement of Tash-Kepri (Turkmen SSR, middle reaches of the Murgab River), cutaneous leishmaniasis was found in two gerbil species (Rhombomys opimus and Meriones erythrourus), the incidence varying with the type of habitat (sandy, hummocky, etc.) and vegetation. The incidence of leishmaniasis is highest in the mesophilic habitats where the density of gerbil colonies and abundance of edible vegetation are greatest. The peak of infection occurs in mid-summer. The seasonal changes in level of disease are assumed to be due to the direct effect of solar radiation on Leishmania, which are found in the surface tissues of the gerbils' ears. Ultraviolet light and heat seem to be the main destructive factors.
1/1

USSR

UDC 534-8

KAL'YANOV, B. I., YEROKHIN, N. G.

"Measurement of the Speed of Ultrasound by a Pulse-Phase Method of Two Fixed Distances"

Tr. Taganrog radiotekhn. in-ta (Works of Taganrog Radioengineering Institute), 1971, No. 22, pp 104-106 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh509)

Translation: Determining the speed of ultrasound by a pulse-phase method of one fixed distance involves a systematic error imparted by the phase error $\phi(\omega)$, which is caused by amplification, conversion, and reflection of the acoustical signal from the reflector. When the acoustical pulses are emitted by a piezoplate in both directions and are reflected from reflectors and again received by the same plate which is a phase-sensitive element, $\phi(\omega)$ for both pulses is essentially the same. The phase difference of both pulses at a frequency ω is therefore equal to $2\Delta z\omega/v$, where Δz is the difference in the distances of the surfaces of the plates to the corresponding reflectors and v is the speed of ultrasound in the liquid being studied. In measuring the phase distances,

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USSR

KAL'YANOV, B. I., YEROKHIN, N. F., Tr. Taganrog radiotekhn. in-ta, 1971, No. 22, pp 104-106

one finds that $\delta(\Delta\Phi) = 2\pi\Delta n$ and $v = 2\Delta z\Delta\nu/\Delta n$. Measurements in distilled water agree with data of other methods of measurement. The technique is of interest in measurements in autoclaves. A schematic of the device is given. L. A. Dikarev.

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USSR UDC 621.385.6 (088.8)

KAL'YANOV, E.V., NADOLINSKIY, V.F.

"Type O Electron Microwave Device"

USSR Author's Certificate No 270097, filed 13 Nov 67, published 30 July 70 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A195P)

Translation: A Type O electron microwave device with magnetic focusing of the electron stream is proposed, which contains an ion trap between the electron gun and the accelerating system. With the object of the elimination of ordinary and noise parasitic oscillations in the signal spectrum, the ion trap with a periodic electrostatic field is made in the form of a packet of conducting plates divided by insulators with apertures in the center for passage of the electron stream.

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USSR

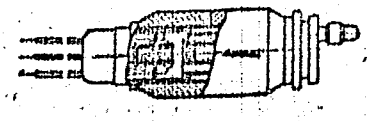
UDC 621.385.633

KAL'YANOV, E. V., NADOLINSKIY, V. F.

"Superhigh-Frequency Type 'O' Electron Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 56, Patent No 270097, Filed 13 Nov 67

Translation: This Author's Certificate introduces a superhigh-frequency type "O" electron device with magnetic focusing of the electron flux. This device contains an ion trap between the electron gun and the decellerating system. The device is distinguished by the fact that in order to eliminate regular and noise parasitic oscillations in the signal spectrum, the ion trap with a periodic electrostatic field is executed in the form of a bunch of conducting plates separated by insulators with holes in the center for passage of the electron flux.



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AA0043445

Soviet Inventions Illustrated, Section II Electrical, Derwent, 12.

UR 0482

228138 BACKWARD WAVE TUBE in which the valve is designed as a two stage component. The retardation components are made in two parts. The first one is synchronising and for a better frequency stability it has a feedback delay line. The second one is synchronised by the first component through the flow of electrons 10.10.62. as 718244/26-25, KALYANOV, E.V., ZHELEZOVSKIY, Ye.E. (7.8.69) Bul. 9/20.2.69. Class 21g, 21a4 Int. Cl. H 01j, H 03b.

19761789

USSR UDC 621.791.92:669.781+669.295:669.14.218.256

KAL'YANOV, V. N., Candidate of Technical Sciences, MURATOV, V. A., Engineer, and POCHEPTSOV, A. V., Engineer (Zhdanov Institute of Metallurgy)

"Thermal Stability and Wear Resistance of Boron-Titanium Metal Deposits"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 70, pp 21-23

Abstract: Results are presented of an investigation of the thermal stability and wear resistance of boron-titanium metal deposits on high-carbon steel plates. The welding procedure for preparing samples and the techniques for measuring the metal hardness and abrasive wear are described. The joint introduction of boron and titanium into a high-carbon metal deposit provides a higher thermal stability compared with that of metal separately alloyed by boron and titanium. The thermal and abrasive wear stability of boron-titanium high-carbon metal are not less than those of sormite. The wear resistance to friction on the hot metal is 5-6 times higher than that of 25L steel, and two times higher than that of tempered 5KhV2F steel. The laboratory results are confirmed by data from industrial tests. Microstructures of boron-titanium and U15TR metal deposits are presented. 4 figures, 3 tables, and 4 references.

1/1

USSR

UDC 632.954:635.615

KAL'YANOVA, R. G., Bykovsk Melon Field Experimental Station, Volgograd

"Herbicides in the Melon Field"

Moscow, Zashchita Rasteniy, Vol 17, No 6, 1972, p 34

Abstract: Tests to determine the effectiveness of herbicides were conducted on sections in which water melons were planted after spring wheat in experimental fallow row crop rotation. The sections had a heavy growth of amaranth interspersed to some extent with hedge parsley and bristly foxtail grass. The herbicides diphenamid, dichlorobenil (2,6-dichlorobenzonitrile), balan, amiben, dicryl, glenbar, gramoxon, reglon, and solan were applied. The best results were obtained with diphenamid, dichlorobenil, and amiben. Upon application of diphenamid (3.5, 4.5, and 6 kg/ha) before planting, the occurence of weeds before the first interrow tilling was reduced by 47-91%, while the yield of water melons increased. Application of dichlorobenil (3 kg/ha) in the same stage with embedding into the soil reduced the amount of weeds by 82-88% without reducing the yield vs. controls. Use of dichlorobenil in amounts higher than 3 kg/ha reduced the yield of water melons. Amiben (3.5 and 4.5 kg/ha) when applied after planting killed 88-93% of the weeds. However, in one of the years (1970) of the four (1967-1970) in which the tests were conducted it reduced the yield of water melons. On being applied before

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USSR

KAL'YANOVA, R. G., Zashchita Rasteniy, Vol 17, No 6, 1972, p 34

planting, amiben killed 75-100% of the weeds, but reduced the yield of water melons.

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USSR

UDC 66.012.1

LEBEDEV, L. I., MANDRYGIN, Yu. A., KhITROVSKIY, Ye. I., and KALYANOVA, S. A.,

"A Device for Statistically Monitoring the Median Interval and Percent of Rejection"

USSR Author's Certificate, Class G 06 s 15/36, No 331390, filed 22 Apr 68, published 13 Apr 72 (from RZh-Avtomatika Telemechanika i Vychislitel'naya Tekhnika, No 3, Mar 73, Abstract No 3 A403 P)

Translation: A device is proposed for statistical monitoring of the median interval and percentage of rejects. The device consists of a control unit, an input unit, an interval counter, a unit for determining the volume of the selection, a histogram presentation unit, a unit for determining the median interval, and indicators. To improve the quality of monitoring of a technological process, the device contains a reject counter-- the input to which is connected to the outputs of the reject intervals of the input device -- and a unit for comparing and indicating actual values of rejection percentage, the median interval with given boundaries, and the result of the preceding selection. The inputs of this unit are connected to the outputs of the damage counter and unit for determining the median interval. To improve the visibility and

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USSR

LEBEDEV, L. I., et al., USSR Author's Certificate, Class G 06 s 15/36, No 331390, filed 22 Apr 68

reliability of the histogram presentation, the input of each of the sets of indicator elements in the columns of the histogram display is connected with the corresponding output of the receiving register decoder and through phase coordinating elements with the output of the preceding unit. Two illustrations.

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USSR

UDC 669.2:621.746

MOLCHANOV, M. D., BONDAREV, B. I., IVANOV, V. S., KALYAPIN, A. S., PONOMARENKO, A. M., and ANDRONOV, A. N.

"Development and Industrial Application of FL10 Flux"

Tsvetnyye Metally, No 3, Mar 71, pp 70-71

Abstract: FL10 flux contains no compounds which react with such alloying elements as zirconium and the rare earth elements, and therefore can be recommended for processing of all magnesium alloys without limitation. The cost of FL10 is 16 rubles less than the cost of FL5 flux.

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USSR

UDC 576.851.555.097.29.086.3

SMIRNOVA, T. A., KUSHNAREV, V. M., KULAK, V. G., and KALYAYEV, A. V., Moscow Institute of Vaccines and Sera

"Electron-microscopic Study of Cl. oedematiens During Toxin Production"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 5, 1973, pp 91-94

Abstract: Electron-microscopic examination of ultrathin sections of cells from 2- and 4-day-old Cl. oedematiens (type A, strain 79) cultures revealed that the normal cell is surrounded by a 5-layer wall consisting of 3 osmiophilic layers separated by osmiophobic layers. Many cells had defects in the walls through which exuded an osmiophilic substance made up of barely distinguishable fibrous and membranous structures. Mature spores were rarely seen; pseudospores were much more common. The cytoplasm contained rod-shaped striated inclusions often possessing a crystalline structure. (These inclusions may have been the result of infection by bacteriophage). Toxin production declined following lysis of the bacterial mass.

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USSR

UDC 681.322.057(088.8)(47)

KALYAYEV, A. V., and KRAVCHENKO, P. P., Taganrog Radio Engineering Institute

"An Extrapolator With Rounding-Off of Increments for a Digital Data Analyzer"

USSR Author's Certificate, No 279192, Filed 9 Apr 68, Published 11 Nov 70 (from Referativnyy Zhurnal — Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B410 P)

Translation: An extrapolator with rounding-off of increments for a digital computer with complete digit position increments is being patented. The extrapolator is distinguished by the following features, whose purpose is to economize on equipment: The output of the first accumulator is connected to the input of the second accumulator. The output of the second accumulator is connected to the input of the unit which isolates the significant part of a number. The output of the third accumulator is connected to the first input of the gate which isolates the rounded-off value of the extrapolated increment; the second input of this gate is connected to the control unit and to the first input of the gate which isolates the remainder from the process of rounding off an extrapolated increment. The second input of the latter gate is connected to the control unit, and its output is connected to the input of the code inversion block. The output of this block is connected to the second input of the second accumulator.

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USSR

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UDC: 621.396.69:621.372.54(088.8)

KALYAYEVA, A. N., PLETNEV, D. V., YAKHIMOVICH, I. Z.

"A High-Frequency Electromechanical Chain Filter"

USSR Author's Certificate No 255424, Filed 20 Jun 68, Published 9 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V387 P)

Translation: The proposed high-frequency electromechanical chain filter is made in the form of hollow cylindrical resonators which vibrate in the torsional mode and are interconnected by wire restraints. As a distinguishing feature of the patent, the overall dimensions of the filter are reduced by making one or more resonators with a longitudinal slot and a radial slot in the central section of the resonator.

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USSR

UDC 616.155.394-02:617-001.282-085.273.3

GORIZONTOV, P. D., KALYAYEVA, T. V., and ROGOZKIN, V. D.

"Leukocytin, a New Agent for the Treatment of Radiation Leukopenia"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 1, 1971, pp 54-59

Abstract: The recently developed hematopoiesis stimulant leukocytin (containing the glycosidal alkaloid solanine) was administered orally to rabbits (15 ml) and dogs (30 mg) every other day from 1 to 20 days after whole-body X-ray irradiation (450 to 500 r and 400 r, respectively). The preparation diminished the degree of leukopenia and degenerative changes in the spleen and bone marrow, preserved mitosis, and accelerated the regeneration of hematopoietic cells. Leukocytin, approved by the USSR Pharmacological Committee for use in the treatment of acute radiation sickness, is not a specific antiradiation agent and it can apparently be used for leukopenia due to other causes than radiation. The preparation is nontoxic (the authors tested it on themselves).

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1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DETERMINATION OF GLYCOLS BY GAS LIQUID CHROMATOGRAPHY -U-

AUTHOR-(04)-NOVOSELOV, A.I., AFANASYEV, A.M., KALYAZIN, VE.P., ZAKHAROV, V.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 386-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GLYCOL, CHROMATOGRAPHIC ANALYSIS, PROPANE, ETHANE, BUTANE/(U)PEG600 CHROMATOGRAPH PACKING, (U)PE62000 CHROMATOGRAPH PACKING, (U)INZ600 CHROMATOGRAPH PACKING, (U)TNDSM CHROMATOGRAPH PACKING, (U)SPHEROCAROMI CHROMATOGRAPH PACK, (U)STERCHAMOL CHROMATOGRAPH PACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0687 STEP NO--UR/0075/70/025/002/0386/0388

CIRC ACCESSION NO--AP0113558

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0113558

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TECHNIQUE FOR THE GAS CHROMATOGRAPHIC DETN. OF ETHANE, 1, 2 PROPANE, 2,3 BUTANE(RACEMATE)-, 2, 3 BUTANE (MESO FORM)-, 1,3 BUTANE-, 1,4 BUTANEDIOL AND DIETHYLENE GLYCOL IN DILD. SOLNS. OF ALCS. OR H SUB2 O ALCSS. MIXTS. IS SUGGESTED. SOME CORRELATION OF THE RESPONSE IN A FLAME IONIZATION DETECTOR WITH THE STRUCTURE OF GLYCOL MOLS. IS OBSERVED. THE SEPN. WAS CARRIED OUT ON A 2 M LONG COLUMN FILLED WITH 12- 15PERCENT POLY (ETHYLENE GLYCOL) PEG 600 OR PEG 2000 ON INZ 600 TND SM, SPHEROCHROM 1, OR STERCHAMOL, AT A COLUMN TEMP. OF 105-300EGREES, WITH N CARRIER GAS AT 80-1DODEGREES ML- MIN.

FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

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USSR

UDC 911.3.616.981.455(574)

KONDRASHKIN, G. A., PUGACHEV, Yu. A., KONDRASHKINA, K. I., KALYAZINA, I. M., PROSHIN, V. G., LUK'YANOVA, A. D., KORCHEVSKAYA, V. A., KORCHEVSKIY, P. G., and POLYAKOV, V. K.

"Landscape-Epidemiological Regional Division Into Tularemia Districts in the Trans-Ural Area of Western Kazakhstan"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works) Byp. 5(15), Saratov, 1970, pp 91-105 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.96)

Translation: The Trans-Ural area of Western Kazakhstan consists of four landscape-epidemiological areas: the Barbastau-Ileko-Utvinskiy area (steppe), the Chelkaro-Ankatinskiy area (dry steppe), the Chiderty-Ulenty-Buldurtinskiy area (semi-desert), and the Kaldygayty-Uil'skiy area (semi-desert-desert). Each area is described. Characteristic for the steppe and dry steppe areas is the steppe type of tularemia focus; while the estuary semi-desert type of tularemia focus is typical for the semi-desert. The prolonged epizootic "calm" of tularemia foci in the Trans-Ural area is due to the progressive drying out of once extensive local river delta floods. Because of cattle slaughter, xerophyt plants take over with river land turning to desert.

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USSR

KONDRASHKIN, G. A., et al., Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works) Vyp. 5 (15), Saratov, 1970, pp 91-105 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.96)

The projected irrigation of the Trans-Ural area by construction of the Volga-Ural canal may activate local native tularemia foci. Numerical tables are provided for small mammals and their ectoparasites in the areas defined.

2/2

USSR

UDC 911.3:616.981.455(470.5)

KONDRASHKIN, G. A., SKARZOV, M. M., KALYAZINA, I. M., KONDRASHKINA, K. I., PUGACHEV, Yu. A., DEMYASHEV, M. P., LUKYANOV, A. D., GRISHIN, A. V., PROSHIN, V. G., and EREMENKO, A. T.

"Natural Focal Activity of Tularemia in the Valley of the Central and Lower Ural River"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of Works), Saratov, No 4(14), 1970, pp 72-93 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.125) by B. Dobrokhotov

Translation: A detailed analysis of zonal differences in the structure of temporary fauna complexes of mammals and their associated parasitocenoses in the valley of the Ural River is presented. The characteristic boreal forms in the northern-latitude areas of the river are gradually changed to desert forms toward the South. The relationship of subsequent changes of these complexes from the north to the south with the epidemiological and epizootiological parameters of each zonal section of the natural focus of tularemia are emphasized. Development of natural foci of tularemia in the central and lower valley of the Ural River is related to characteristics of the fluctuation in

USSR

KONDRASHKIN, G. A., et al., RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.125.

the level of the Caspian Sea. Tables of the changes in species composition and population of mammals, Ixodes, Gamasidae, and fleas distributed over the various regions of the Ural floodplain (northern and southern part of the valley of the central Urals, Chapayevsk, Kalmyk, and Makhambets flood plain of the lower Ural River) are given.

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1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--BIOLOGICAL ACTION AND DISTRIBUTION OF TRITIUM OXIDE IN A DOG -U-

AUTHOR-(04)-BIBIKOVA, A.F., ZHURAVLEV, V.F., IZMAILOVA, G.M., KALYAZINA, N.S.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 310

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DOG, TRITIUM OXIDE, RADIATION SICKNESS, HEMORRHAGE, CENTRAL NERVOUS SYSTEM, CEREBRUM, BRAIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/B09 STEP NO--UR/0205/70/010/002/0130/0310

CIRC ACCESSION NO--AP0139603

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139603

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRITIUM OXIDE (T SUB2 O) INTRODUCED I.P. IN 0.15 AND 0.3 MCI-G DOSES TO DOGS CAUSED ACUTE RADIATION SICKNESS WITH MARKED HEMORRHAGIC SYNDROME AND IRRITATION OF THE CENTRAL NERVOUS SYTEM. HISTOL. EXAMN. OF THE CEREBRUM REVEALED DIFFUSE TOXIC DAMAGE OF NEURONS AND OF NEUROGLIA. THESE EFFECTS ARE DIFFERENT FROM THOSE CAUSED BY EQUAL DOSES OF IONIZING RADIATION FROM AN EXTERNAL SOURCE. DISTRIBUTION OF T SEEMED TO BE UNIFORM THROUGHOUT ALL ORGANS INCLUDING THE BRAIN TISSUE. THIS RENDERS POSSIBLE THE DETN. OF IRRADN. DOSES AND OF THE KINETICS OF T SUB2 O ELIMINATION BASED ON CHANGES IN THE BLOOD LEVEL. FACILITY: INST. BIOFIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 615.216.5.015.156

DZHAGATSPANYAN, I. A., and KALYGUL', T. A., Phsychopharmacological Laboratory, Institute of Pharmacology, USSR Academy of Medical Sciences, Moscow

"An Experimental Formulation of Certain 'Withdrawal' Phenomena Produced by Stoppage of Long-Term Administration of Diazepam and Chlorodiazepoxide"

Moscow, Farmakologiya i Toksikologiya, No 5, Vol XXXIV, Sep-Oct 71, pp 527-531

Abstract: Scattered reports have appeared concerning drug dependence in schizophrenics and epileptics treated over extended periods with heavy doses of Diazepam and Chlordiazepoxide, the "withdrawal" symptoms including agitation, tremor, convulsions and even status epilepticus. However, no edequate analysis of the causative factors, or generalization of observed results, has been undertaken.

The authors tested several groups of white rats, administering 5, 10 and 20 mg/kg of Diazepam, 5, 10 and 40 mg/kg of chlordiazepoxide, and 50 mg/kg of phenobarbital-sodium (Nembutal), daily, for periods of 7, 14 and 28 days.

Lowered sensitivity threshold for Corazol (pentylenetetrazone) was clearly evident in all cases, and this effect was proportional to duration and size of dosage. Phenobarbital-sodium produced a greater degree of threshold lowering than the other drugs.

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[illegible]

KALYADOV Yu.S.

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

236730 GLASS FIBRE MANUFACTURE. This invention relates to a device for charging glass beads automatically into a glass-melting pot, which incorporates a level-indicating gauge in the form of a d.c. amplifier, a controlled admission device and a time relay. To improve the safety and reliability of operation, the control unit on the admission device additionally includes an unsymmetrical multivibrator and the level gauge includes a Schmitt trigger. The electronic circuitry is shown in the diagram. The level gauge section of the circuit consists of the input rectifying bridge M and trigger 1; the control unit is made up of the unsymmetrical multivibrator 2, the relay is connected by the triode P_1 to the d.c amplifier 3 and relay R_1 at the output. The way in which the circuit works when the level of the mass of glass in the furnace changes is described, together with the

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AA0040460

mechanism that comes into operation to add more glass beads to the furnace to replace that which has been used in production. 22.8.67. as 1182663/29-33. V.N DOKUCHAEV et al. (19.6.69.) Bul.7/3.2.69. Class 32a. Int.Cl C03b.

AUTHORS: Dokuchayev, V. N.; Shepelev, V. L.; Kalynov, Yu. S.

19741965

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USSR

FRANTSEVYCH, I. M., Academician of the Academy of Sciences Ukrainian SSR, KALYNOVYCH, D. F., Candidate of Technical Sciences, KOVENS'KYY, I. I., Candidate of Technical Sciences, and SMOLIN, M. D., Candidate of Technical Sciences

"Development and Use of the Electrotransport Method to Determine the Principal Parameters of a Metallic Bond"

Kiev. Visnik Akademiyi Nauk Ukrayins'koyi RSR, Vol 34, No 3, Mar 70, pp 24-33

Abstract: The article describes results of a study of the development and use of the electrotransport method to determine the principal characteristic parameters of the metallic bond of a substance; viz., the actual ion charges of alloy metals and components z, electron and hole concentrations n- and n+, the cross-sections of current-carrier scattering by diffusing ions σ- and σ+, and the temperature parameters respectively of electron and hole conductivity ρ_{o-} and α-, ρ_{o+} and α+. The study includes the solution to the following theoretical, methodological, and experimental problems:

1. Developing a theory on the connection between the values of the effective charges of ions which migrate during electransport, z*, temperature

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USSR

FRANTSEVYCH, I. M., et al., Visnik Akademiyi Nauk Ukrayins'koyi RSR, Vol 34, No 3, Mar 70, pp 24-33

and composition, and the derivation of new relations which connect the values of the characteristics z, n_-, n_+, σ_-, σ_+, ρ_{o-}, α_-, ρ_{o+}, and α_+ with experimentally established values.

2. Development of theoretical and experimental tests for the applicability of the electrotransport method.

3. Development of experimental procedures for determining effective charge values and a system for checking on experimental results.

4. Using the electrotransport method to determine the principal characteristic parameters of a number of specific alloys.

1/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ANTIBIOTIC POLYRESISTANT STAPHYLOCOCCAL CARRIER STATE IN PATIENTS WITH TUBERCULOSIS AND IN HEALTHY PERSONS -U-

AUTHOR-(04)-GENCHIKOV, L.A., ATOPEK, S.YA., KALYUK, A.N., SOKOLOVSKIY, V.T.

COUNTRY OF INFO--USSR

SOURCE--PROBL TUBERK 48(1): 49-53. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUBERCULOSIS, STAPHYLOCOCCUS, ANTIBIOTIC, DRUG RESISTANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0450 STEP NO--UR/0000/70/048/001/0049/0053

CIRC ACCESSION NO--AP0134218

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134218

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCRETION BY TUBERCULOUS PATIENTS OF POLYRESISTANT STAPHYLOCOCCI AND ALSO THE STAPHYLOCOCCAL CARRIER STATE IN TUBERCULOUS PATIENTS, MEDICAL STAFF MEMBERS AND HEALTHY PERSONS OUTSIDE THE HOSPITAL WERE STUDIED. IN LOOKING INTO THE CARRIER STATE PROBLEM, THE STAPHYLOCOCCI CULTURES MOST RESISTNAT TO ANTIBIOTICS WERE OBTAINED IN THE GROUP OF PATIENTS, WERE LESS FREQUENTLY OBSERVED IN THE MEDICAL STAFF GROUP AND EVEN LESS IN HEALTHY PERSONS. IN THE CLINIC, THE POLYRESISTANT STAPHYLOCOCCAL CULTURES SHOWED CONSIDERABLY HIGHER RESISTANCE LEVELS AND WERE MUCH MORE FREQUENT (IN 88.5PERCENT OF PATIENTS AN/IN 66.9PERCENT OF THE MEDICAL STAFF MEMBERS) THAN WAS THE CASE IN HEALTHY SUBJECTS. IT IS OBVIOUS THAT WITH LENGTHY STAYS IN MEDICAL ESTABLISHMENTS AND LONG TERM MEDICATION AIDS THE OCCURRENCE OF INTENSIVE CROSS TRANSMISSION OF MICROBIAL FORMS RESISTANT TO ANTIBIOTICS BOTH ON THE PART OF PATIENTS AND MEDICAL STAFF MEMBERS. BECAUSE OF THIS, MEDICAL PERSONNEL SHOULD BE SUBJECTED TO SPECIAL EXAMINATIONS, AND IN CASES OF RESISTANT STAPHYLOCOCCI BEING EXCRETED, APPROPRIATE SANITARY MEASURES SHOULD BE UNDERTAKEN. FACILITY: DEP. EPIDEMIOL., N. R. GAMALEYA INST. EPIDEMIOL. MICROBIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

IL'INA, M. A., ITSKEVICH, Ye. S., and KALYUZHNAYA, G. A.

"Effect of Pressure on the Superconductivity of Niobium Diselenide"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 2, 1972, pp 515-517

Abstract: The results are given of experiments designed to probe the effects of quasi-hydrostatic pressure of up to 100 kbar on the transition temperature of $NbSe_2$ in the superconductive state. The $NbSe_2$ specimen was crystallized in a layered hexagonal structure with a distance of 12.56 Å between layers, which consisted of two solidly packed selenium sheets with niobium atoms in triangular-prismatic hollows. Temperatures of 4.2°K and up were obtained by warming a cold multiplier above the level of liquid helium in a Dewar and were determined through the use of a thermocouple consisting of copper and a gold-silver alloy. Curves are given for the electrical resistance of the specimens as a function of the temperature at various pressures, for the critical temperature of the superconducting transition of the $NbSe_2$ as a function of the pressure, and for the critical temperature as a function of the distance between the layers. Members of the Institute of High Pressure Physics, USSR Academy of Sciences, the authors express thanks to L. F. Vereshchagin and B. M. Vul for their support.

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USSR

UDC 621.84.001.2(088.8)(74)

MACHINSKIY, V. K., KALYUZHNYY, A. D., TRAVNIKOV, Ye. N.

"A Vacuum Tape Transport Mechanism"

USSR Author's Certificate No 282694, filed 25 Aug 69, published 21 Dec 70 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7V178 P).

Translation: This Author's Certificate introduces a vacuum tape transport mechanism which contains drive shafts and magnetic heads. As a distinguishing feature of the patent, in order to shorten the time of the transient process when the magnetic tape speed changes, and to reduce the nonuniformity of tape speed, opposite each of the shafts rotating at different speeds is a corresponding module of "floating" magnetic heads. Information at each instant of time is recorded by one of the modules against whose shaft the tape is drawn by a vacuum, while the other module is held away from its shaft by a jet of air blown through it.

KALYUZHNYY, D. N.

JPRS 55569
29 Mar 72

UDC: 614.79:711.3

HYGIENIC ISSUES PERTAINING TO PLANNING AND CONSTRUCTION OF EXPERIMENTAL VILLAGES

[Article by D. N. Kalyuzhnyy, Kyivmiskhaya, Ye. S. Lakhno, M. G. Shandala (Kiev); Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 7, 1972, pp 56-60]

In the Soviet Union, much attention is given to the growth of agricultural production. In accordance with the Five-Year Plan of development of the national economy of the USSR, in 1971-1975, the mean annual agricultural output will increase by 20-22 percent, while state investments of capital for the needs of agriculture, including productions, housing, and cultural building and purchase of technology will constitute 82.2 billion rubles.

The socialistic transformation of agriculture is associated with a radical improvement of sanitary living conditions for the rural population. In defining the Party strategy in this regard, the Program of the CPSU directs our attention to the fact that "gradually, collective farm settlements and villages will be transformed into larger populated centers of the urban type with housing supplied with all amenities - municipal services, utilities, cultural and medical institutions. Ultimately the cultural and living conditions for the rural population will be comparable to those of urban residents. Eradication of socioeconomic and cultural and living distinctions between the city and villages is one of the greatest results in the building of communism" (Gospolitizdat Publishing House, Moscow, 1961, p 85).

More recently major strides have been made in the area of building up rural populated regions.

However, along with the achievements in rural construction there are also substantial flaws of an architectural-planning and sanitary-hygienic nature. For example, rural construction is often out of touch with the regional planning conceptions, it follows unapproved general blueprints or none, without system, without adhering to functional zoning of the land as to purpose, without consideration of the potential of the villages, without adhering to hygienic requirements.

USSR

UDC 612.822.3

AGADZHANYAN, N. A., DVORZHAK, I., KALYUZHNYY, L. V., and MORAVEK, M., Moscow

"EEG and Behavioral Changes at Different Levels of Hypoxia"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, No 1, 1971, pp 176-183

Abstract: Experiments with animals (rabbits) and human beings revealed a correlation between EEG shifts and behavioral disturbances, including impairment of conditioned reflexes, brought about by increasing hypoxia. Elevation of the animals to steadily higher simulated altitudes in a pressure chamber resulted in the gradual dominance of slow high-amplitude waves on the EEG, the disappearance of conditioned reflexes, adynamia, and unconsciousness. In the early stage of the experiment with the human subjects, the alpha oscillations were dominant, the beta and theta oscillations insignificant, and the delta rhythms entirely absent. With increasing hypoxia, the alpha oscillations

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USSR

AGADZHANYAN, N. A., et al., Zhurnal Vysshey Nervnoy Deyatel'nosti, No 1, 1971, pp 176-183

gradually decreased, the beta oscillations disappeared, and the delta rhythms became dominant. Mental performance (in arithmetic problems) deteriorated, memory declined, and when oxygen saturation of the blood was 65% or less unconsciousness ensued, although several vital systems (respiratory, cardiac) continued to function. The results of the experiments suggest that EEG shifts can serve as an indicator of mental impairment under conditions of increasing oxygen insufficiency.

USSR

UDC 621.391.818

MIKHAYLOV, M. I., KALYUZHNYY, V. F.

"Protective Action of Smoothing Devices in High-Voltage D-C Transmission Lines in Electromagnetic Effects on Communication Lines"

Moscow, Elektrosvyaz', No 9, 1970, pp 24-28

Abstract: The high-voltage d-c transmission lines, used both in the Soviet Union and abroad, have nominal voltages between conductors of 200, 400 600, and 800 kv. They are designed to carry voltages of 1200 and 1500 kv over large distances, which means that low-frequency components at the outputs of converters connected to the line will affect communications lines in their neighborhood. To reduce the voltages of these low-frequency components, smoothing devices developed by the Leningrad Scientific Research Institute in the form of high-voltage chokes and low-frequency filters have been used. The effects of these smoothing devices are studied in this article. In computing the effects of the devices, the Volgograd-Donbas lines are used as examples.

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USSR UDC: 621.375.8

KAMACH, Yu. E., KOZLOVSKIY, Ye. N., OVCHINNIKOV, V. M.

"A Laser"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, Jun 72, Author's Certificate No 240136, Division H, filed 16 Oct 67, published 24 May 72, p 250

Translation: This Author's Certificate introduces a laser which contains an active element, an optical cavity, and a polarization element which gives two orthogonally polarized beams at the output. As a distinguishing feature of the patent, provision is made for controlling the polarization of the output emission at different stages of development of the monopulse, and for increasing the power of the output emission. Located in the optical cavity of the laser between the polarization and reflection elements is a polarization element which converts two incident orthogonally polarized waveforms to nonpolarized emission, and connected between the polarization elements in the direction of beam travel are two electro-optical controlling elements.

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USSR

UDC: 621.375.8

KAMACH, Yu. E., KOZLOVSKIY, Ye. N., OVCHINNIKOV, V. M., SOLOMATNIKOVA, G. M.

"An Electro-Optical Reflection Gate for Q-Switching a Laser Cavity"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, Jun 72, Author's Certificate No 270920, Division H, filed 16 Feb 68, published 24 May 72, p 250

Translation: This Author's Certificate introduces an electro-optical reflection gate for Q-switching a laser cavity. The gate is made from an optically uniaxial crystal in the form of a parallelepiped with annular electrodes, the edges being parallel to the optical Z axis, and with a base inclined to the optical axis of the crystal at an angle equal to or greater than the angle of total internal reflection. A reflective coating is applied to part of the lateral face opposite the inclined base. As a distinguishing feature of the patent, the gate is designed for use in lasers with unpolarized emission. The other base of the crystal is inclined to its optical axis at an angle equal to or greater than the angle of total internal reflection, and is located in a plane which is mutually perpendicular with respect to the first base.

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USSR UDC: 621.375.8

KAMACH, Yu. E., KOZLOVSKIY, Ye. N., OVCHINNIKOV, V. M., SOLOMATNIKOVA, G. M.

"An Electro-Optical Reflection Gate for Q-Switching a Laser Cavity With Polarized Emission"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 17, Jun 72, Author's Certificate No 273023, Division H, filed 7 Feb 68, published 24 May 72, p 250

Translation: This Author's Certificate introduces: 1. An electro-optical reflection gate for Q-switching a laser cavity with polarized emission. The gate is made from an optically uniaxial crystal in the form of a parallelepiped with annular parallel electrodes on the ends of the crystal. The edges of the crystal are perpendicular to one of the bases and parallel to the Z axis. As a distinguishing feature of the patent, in order to reduce losses of light, simplify design, improve reliability and increase stability, the other base of the crystal is made in the form of at least one reflecting face which is inclined to the optical axis of the crystal at an angle equal to or greater than the angle of total internal reflection. 2. A modification of this gate in which a reflective coating is applied to part of the lateral face opposite the inclined base and bounded by the electrode.

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Optical

USSR

UDC 621.378.325

ZHARKOV, A. P., KAMACH, YU. E., KOZLOVSKIY, YE. N., LYUBAVSKIY, YU. V., OVCHINNIKOV, V. M.

"The OGM-20 Monopulse Laser"

Leningrad, Optiko-mekhanicheskaya Promyshlennost', No 9, Sep 70, pp 30-34

Abstract: The authors describe the circuits and give the principal characteristics of a ruby monopulse laser in which the Q of the resonator is modulated by use of the linear electrooptic effect in potassium dihydrophosphate crystals. The OGM-20 is the first industrial model of a monopulse laser designed for jobs requiring brief high-power light pulses. The unit can be used to study the interaction between radiation and matter both in microvolumes with the use of special focusing lenses, and on the macroscopic scale in optically transparent media with the use of a telescopic system. An IFP-800 xenon tube is used for pumping. The instrument emits on a wavelength of 649.3 μ with a prf of 1 Hz, pulse emission power is $2 \cdot 10^7$ watts, the duration of a

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ZHARKOV, A. P., et al, Optiko-mekhanicheskaya Promyshlennost', No 9, Sep 70, pp 30-34

pulse at one-half maximum intensity is $2 \cdot 10^{-8}$ second, the angle of beam divergence at one-half maximum intensity without the telescope is 10', the laser head itself measures 140 x 840 x 440 mm, and the power supply and control unit measures 523 x 530 x 985 mm. The instrument is water-cooled and is designed for operation in a temperature range of 5-35°C at a relative humidity of less than 90 percent.

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USSR

UDC 621.373:623.543

BEREZKIN, A. N., DUNAYEV, YU. A., KAMACH, YU. E., KOZLOVSKIY, YE. N., and OVCHINNIKOV, V. M., Physical Engineering Institute imeni A. F. Ioffe

"Use of Monopulse Optical Laser for Photographing Models During Ballistic Investigations"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 15, No 1, Jan-Feb 70, pp 21-25

Translation: The article investigates the possibilities of application of optical lasers for the illumination of moving objects in shadow photography. A diagram of the experimental apparatus is presented and a description is made of the optical laser, telescopic system which forms the illumination beam for the moving object, and a system of synchronization of illumination pulse with the moment of arrival of the investigated object at a given point in the field of photograph taking. The presented photographs clearly show the boundries of flying solids, shock waves, and discontinuities in solid's track. The article shows the possibility of application of a monopulse ruby laser as a source of illumination in the photography of moving objects during aeroballistic investigations.

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Lasers and Masers

USSR

UDC: 621.373.029.67

ARKAD'YEV, D. I., KANACH, Yu. E., KOZLOVSKIY, Ye. N., CVCHINNIKOV, V. M., and SHAMBUROV, V. A.

"Monopulse Ruby and Neodymium-Glass Laser"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 3, 1970, pp 523-528

Abstract: This article describes a laser designed by the authors to correct defects in an earlier laser developed by some of the men named above and described in the Russian Journal of Applied Spectroscopy ("Laser with Neodymium Glass Electro-Optical Q Modulator," 1967, Vol. 7, No. 2, p. 269). This earlier laser used a half-wave electro-optical gate with a KDP crystal between crossed polarized prisms of Iceland spar. The presence of a second polarizer in the laser introduced additional absorption and dispersion losses in the Iceland spar, and the half-wave voltage for controlling the gate for neodymium glass was as much as 18-20 kv. The new laser uses ruby and neodymium glass

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